

Seven Channel Amplifier

RDA-7.1

Instruction Manual

Integra
R E S E A R C H

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN

AVIS
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects

PORTABLE CART WARNING



have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. Damage Requiring Service

Unplug the apparatus from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- A. When the power-supply cord or plug is damaged,
- B. If liquid has been spilled, or objects have fallen into the apparatus,
- C. If the apparatus has been exposed to rain or water,
- D. If the apparatus does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the apparatus to its normal operation,
- E. If the apparatus has been dropped or damaged in any way, and
- F. When the apparatus exhibits a distinct change in performance this indicates a need for service.

16. Object and Liquid Entry

Never push objects of any kind into the apparatus through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases shall be placed on the apparatus.

Don't put candles or other burning objects on top of this unit.

17. Batteries


Always consider the environmental issues and follow local regulations when disposing of batteries.

18. If you install the apparatus in a built-in installation, such as a bookcase or rack, ensure that there is adequate ventilation.

Leave 20 cm (8") of free space at the top and sides and 10 cm (4") at the rear. The rear edge of the shelf or board above the apparatus shall be set 10 cm (4") away from the rear panel or wall, creating a flue-like gap for warm air to escape.

Features

- RDA-7.1 was designed by Balanced Audio Technology in USA. They are known for producing superbly engineered, meticulously crafted products that recreate music with unmatched fidelity and accuracy.
- THX® Ultra2 Certified
- THX Surround EX™ Capable (7 Channels)
- Over 1000 Watts of Total Output Power (150W × 7Ch)
- Low-Negative Feedback Design for Optimum Signal-to-Noise Performance and Superior Dynamic Contrasts
- Balanced XLR Inputs for Better Frequency Response, Dynamic Range and Stability on long Cable Runs
- High-Current Driver Stage for the Finest Performance from Any Loudspeaker
- 3 Gain Stages to Minimize Signal Correlation and Improve the Amplifier's Sonic Neutrality
- Wide Range Design to Ensure the Full Sonic Benefits from the Latest High-Resolution Source
- Massive, High-Quality, Dual 1kVA toroidal Transformers
- Low Impedance Design with Thick Copper Bus Bar
- 600 Joules of Energy Storage to Provide Virtually Unlimited, Extremely Clean Power to Even the Most Demanding Loudspeaker Loads and Configurations
- Gold Plated High Quality Transparent Speaker Terminals Compatible with Banana Plugs
- Rigidly Aluminum Front Panel and Brazen Stabilizer

*  is Trademark of Balanced Audio Technology.

* Ultra2 and THX are trademarks or registered trademarks of THX Ltd.

Contents

Before using

Important Safety Instructions	2
Features	3
Contents	3
Precautions	4
Supplied accessories	6
Unpacking and storing the packing materials	6
Installation	7

Operations

Quick operation guide	8
Front panel facilities	9

Connections

Rear panel facilities and connections	10
Connecting speakers	12
Connecting to the RDC-7.1	13

Appendix

Cautions regarding humming noise	14
Troubleshooting guide	15
Specifications	15

THX Ultra2

Before any home theatre component can be THX Ultra2 certified, it must pass a rigorous series of quality and performance tests. Only then can a product feature the THX Ultra2 logo, which is your guarantee that the Home Theatre products you purchase will give you superb performance for many years to come. THX Ultra2 requirements define hundreds of parameters, including power amplifier performance, and pre amplifier performance and operation for both digital and analog domains. THX Ultra2 receivers also features proprietary THX technologies which accurately translate film soundtracks for home theater playback.

Precautions

CAUTION:

RISK OF FIRE-REPLACE FUSE AS MARKED

ATTENTION:

RISK DE D'INCENDIE-

REEMPLASER PAR UN FUSIBLE INDIQUE



The fuse symbol, within an equilateral triangle on the rear panel, is intended to alert the user to always replace the fuse with a fuse of the same type. The “T” in T10A refers to “time lag”, the “10A” refers to a current rating of 10 amperes and “L” refers to “low breaking”. The fuse type depends on the power supply used for your model. For details on the fuse rating, refer to “[5] Fuse” on page 11. For replacing the fuse, make sure to contact your Integra/ Onkyo authorized service center or your Integra Research dealer.

For Canadian model

For models having a power cord with a polarized plug:

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

Modele pour les Canadien

Sur les modèles dont la fiche est polarisée:

ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU’AU FOND.

For British model

Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.

IMPORTANT

The wires in the mains lead are coloured in accordance with the following code:

Green-and-Yellow : earth

Blue : neutral

Brown : live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol ⊕, or coloured green or green and yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.


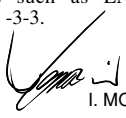
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IMPORTANT

A 13 ampere fuse is fitted in this plug. Should the fuse need to be replaced, please ensure that the replacement fuse has a rating of 13 amperes and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark or the BSI mark on the body of the fuse.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMPERE SOCKET.

If in any doubt, please consult a qualified electrician.

Declaration of Conformity	
We, ONKYO EUROPE ELECTRONICS GmbH LIEGNITZERSTRASSE 6, 82194 GROEBENZELL, GERMANY	
declare in own responsibility, that the ONKYO product described in this instruction manual is in compliance with the corresponding technical standards such as EN60065, EN55013, EN55020 and EN61000-3-2, -3-3.	
GROEBENZELL, GERMANY	 I. MORI
ONKYO EUROPE ELECTRONICS GmbH	

Precautions

Before using the RDA-7.1 power amplifier, be sure to read the page above entitled Important Safety Instructions and this page of precautions.

Power cord

The RDA-7.1 comes with a three-pronged power cord that contains a grounding wire. To help prevent electrical shocks, always insert all three prongs when plugging in the power cord. If the plug of the power cord is not properly plugged in all the way, it may lead to an electrical shock.

Be sure to only use wall sockets that properly fit the plug of the power cord. If the socket does not match the plug of the power cord, you will need to prepare an adapter. Always use an adapter that is properly certified for this application.

WARNING:
THIS APPARATUS MUST BE EARTHED.

AC fuse

Never plug the power-supply cord while the fuses installed on the RDA-7.1 are removed.

For replacing the fuse, make sure to contact your Integra/Onkyo authorized service center or your Integra Research dealer.

Speakers

Connected speakers should have an impedance of 4 ohms or greater. If speakers with an impedance of less than 4 ohms are connected, it may damage the RDA-7.1.

Ventilation

The RDA-7.1 is a high-power amplifier, so the internal temperature of the device rises to a high temperature. Therefore, place the RDA-7.1 in a location where the flow of air around the device is good. Also, do not place objects or other system components on top of the RDA-7.1 or block the ventilation holes in any way. This may cause the internal temperature to rise and lead to a malfunction or damage the internal components.

Care

From time to time you should wipe the front and rear panels and the cabinet with a soft cloth. For heavier dirt, dampen a soft cloth in a weak solution of mild detergent and water, wring it out dry, and wipe off the dirt. Following this, dry immediately with a clean cloth. Do

not use rough material, thinners, alcohol or other Chemical solvents or cloths since these could damage the finish or remove the panel lettering.

Whenever performing maintenance on the RDA-7.1, any of its supplied accessories, or any device connected to it, do not use solvents or cleaners of any kind that are inflammable or combustible.

Other

Below is a list of actions that you should never perform.

- **Never** perform a “thumb test” (checking whether current is reaching the lead wire on the hot end of the input by touching it with your fingers) on the ends of the input jacks or input cables. Doing so may damage the speakers.
- **Never** short-circuit an output terminal.
- **Never** remove the cover of the RDA-7.1. Furthermore, never operate the RDA-7.1 when the cover is removed for any reason.
- **Never** operate the RDA-7.1 in environments with explosive gases or materials.
- **Do not** install the RDA-7.1 in a location within the reach of small children.

Lightning storms

Never touch the power cord or plug of the RDA-7.1 during a lightning storm.

Power

WARNING:

BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.

The voltage of the available power supply differs according to country or region. Be sure that the power supply voltage of the area where this unit will be used meets the required voltage (e.g., AC 120V, 60Hz)

Warranty Claim

You can find the serial number on the rear panel of this unit. In case of warranty claim, please report this number.

Recording Copyright

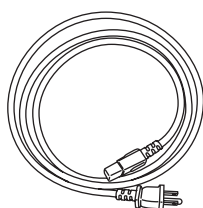
Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

Thank you for purchasing an Integra Research Seven Channel Amplifier.

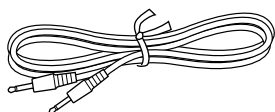
Please read this manual thoroughly before making connections and plugging in the unit. Following the instructions in this manual will enable you to obtain optimum performance and listening enjoyment from your new Seven Channel Amplifier. Please retain this manual for future reference.

Supplied accessories

Check that the following accessories are supplied with the RDA-7.1.

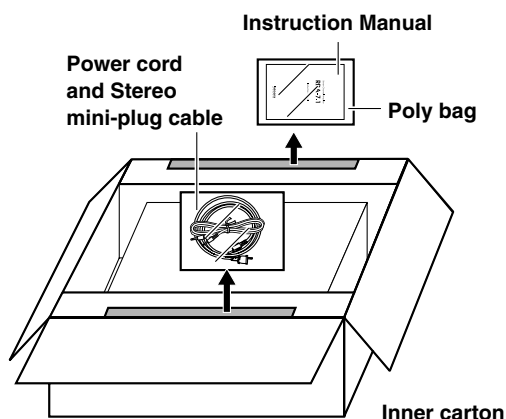


Power cord × 1
The power cord may differ depending on the region.



Stereo mini-plug cable × 1

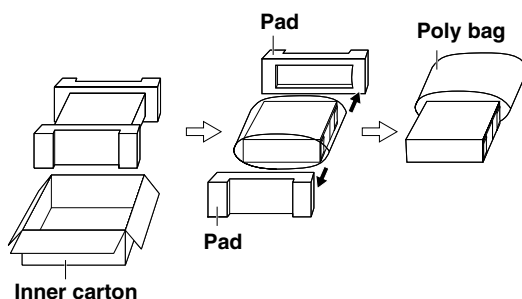
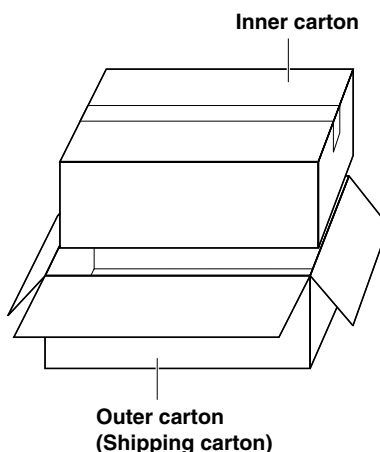
(for connecting the 12V TRIGGER IN jack to the AV controller that have a 12V Trigger output jack)



Unpacking and storing the packing materials

Unpacking

When unpacking the RDA-7.1, be sure to remove all accessories from the cardboard box and then check that all are included and none are missing.



Removing the RDA-7.1

After removing the RDA-7.1, carefully inspect it to make sure that it has not been damaged during the shipping processes. If damaged, contact an Onkyo service station or representative immediately. Also, take down the name of the carrier in case it is necessary to obtain compensation from the carrier service.

Storing the packing materials

After unpacking, store the cardboard box and packing materials in a safe place; do not throw them away. If you are to transport the RDA-7.1 at a later date, you will need this cardboard box and the packing materials. The RDA-7.1 is very heavy and may become damaged if it is transported in a different box.

Installation

Preventing excessive rise in the internal temperature of the RDA-7.1 is vital to the long operational life of the equipment. This will also help prevent trouble at the RDA-7.1 from damaging other connected components. Therefore, it is important to choose a location with excellent ventilation for installation.

Ventilation

During normal household use of the RDA-7.1, only its internal heatsink becomes warm. However, if used with low impedance speakers at high volume levels, the internal temperature level will rise higher than usual. These high internal temperatures may cause damage to the internal components.

To prevent damage from occurring due to high internal temperatures, it is vital to have proper ventilation and passage of air to carry out the heat and keep the internal temperature within acceptable ranges.

Caution

- Do not place the RDA-7.1 inside cabinets or closets where there is poor passage of air and ventilation.
- Do not place the RDA-7.1 near external heat sources such as heaters or hot air ducts.
- Do not place other components or object on top of the RDA-7.1.
- The cover of the RDA-7.1 contains ventilation holes to allow the passage of air. Do not cover or block these holes in any way.

If you are planning to place it within a cabinet, either open holes in the rear panel of the cabinet to improve ventilation or use a fan to force air circulation.

As a general rule, if during idling the cover is too hot to touch, then ventilation needs to be improved.

Installation location and space

The RDA-7.1 is an extremely heavy piece of equipment. Make sure that the floor or cabinet or rack where it will be located is strong enough to support its weight.

You will also need to leave enough space behind the RDA-7.1 to allow room for the power cord and other cables for connecting system components. A minimum of three inches (8 cm) is required behind the RDA-7.1 to allow room for the cables and cords without excessively bending them.

Quick operation guide

Here is a quick guide for those who want to listen to music or view their favorite movies as soon as possible. Connections and operations are explained briefly here for the purpose of just getting you started.

For those of you who want to operate the RDA-7.1 right away, follow the guide below. However, this instruction manual contains a great deal of other information that you should know for the proper operation of the RDA-7.1 and for a more pleasurable experience with the RDA-7.1. Be sure to read the rest of this manual as well after reading this quick guide.

The procedures given in this section assume that the other system components are already connected. (For example, that the source components are already connected to the AV controller or pre-amplifier.)

For perfect sound reproduction

This unit uses no relay in its output circuit for perfect quality sound reproduction. This, however, may also result in the reproduction of noise-prone signals from each channel until the internal circuitry becomes stabilized. To prevent this, you should normally preheat the unit for more than 15 minutes until the sound quality becomes stabilized. We recommend that, after turning the power on, you leave the unit for more than 30 minutes and enjoy playing your favorite music or movies when the internal circuitry becomes stabilized.

1. Lower the volume at the AV controller.

Lower the volume of the AV controller to the minimum so that when the RDA-7.1 is turned on, you do not hear loud unwanted sounds.

2. Connect the speakers to the RDA-7.1.

Connect the speakers to the RDA-7.1 using the proper speaker cables. Be sure not to mix the left and right channels and positive (+) and negative (–) polarities. If the connections are mistaken, the correct orientation will not be obtained and left-right phasing will be reversed.

3. Select balanced input (XLR) or unbalanced input (RCA) with the INPUT SELECT switch.

The RDA-7.1 possesses a balanced input (XLR) and unbalanced input (RCA) for each channel and the switch for the two is located between the two input terminals. Select the proper input type depending on the functionality of the connected cables and AV controller.

Note:

Do not change the INPUT SELECT switch setting when the RDA-7.1 is turned on.

4. Connect the AV controller to the RDA-7.1.

After selecting the correct input type in step 3 above, connect the output from the AV controller to the corresponding input terminal on the RDA-7.1.

Note:

Do not connect anything to the other input jack.

5. Connect the supplied power cord to the RDA-7.1 and to the wall power outlet.

Be sure to properly plug the power cord all the way in.

6. Press the POWER switch.

When you press the Power switch, the On indicator lights blue. If a cable is connected to the 12V TRIGGER IN terminal, the On indicator lights blue when there is a signal and the Standby indicator lights red when there is no signal.

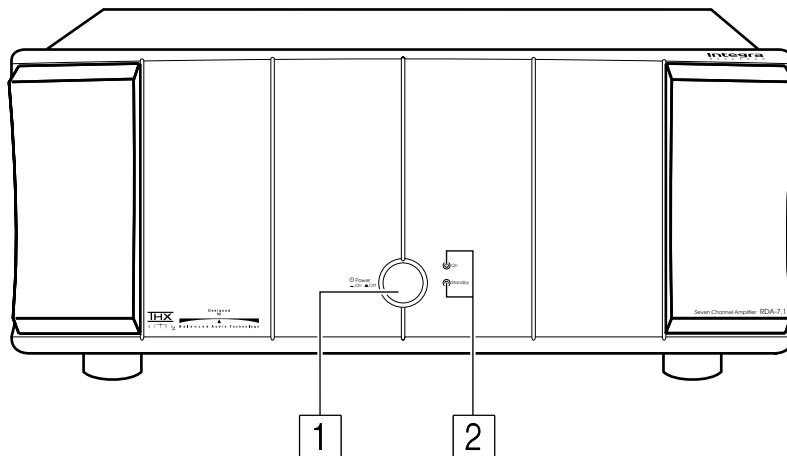
7. Slowly increase the AV controller volume.

Note:

After the RDA-7.1 is turned on, it takes approximately 9 seconds before the output stabilizes. During this time, do not turn up the volume.

Now all that remains is to control the AV controller and the other connected system components and enjoy your music or movies.

Front panel facilities



1 Power On / Off

Pressing this switch connects the RDA-7.1 to the main Power outlet and the On indicator lights blue. Sound will be heard after approximately 9 seconds. If you want to operate the RDA-7.1 using a 12-volt trigger, connect to the 12V TRIGGER OUT terminal of AV controller or pre amplifier to the 12V TRIGGER IN terminal of the RDA-7.1, and leave the Power switch of the RDA-7.1 set to On. For example, to control the RDA-7.1 while it is connected to the RDC-7.1 AV controller, connect the 12V TRIGGER OUT E jack of the RDC-7.1 to the 12V TRIGGER IN jack of the RDA-7.1 with the supplied stereo mini-plug cable.

If a plug is connected to the 12V TRIGGER IN jack:

The signal reaches the 12V TRIGGER, the On indicator lights blue. When there is no signal at the 12V TRIGGER, the Standby indicator lights red.

2 On/Standby

The RDA-7.1 is equipped with two indicators to display its status. If both indicators are off, then the main Power switch on the front panel is turned off. If the Power switch is turned on, then one of these indicators will be lit.

On: Lights blue when Power is supplied from the AC mains Power supply, or signal is input from the 12V TRIGGER IN terminal.

Standby: Lights red when no signal is input from the 12V TRIGGER IN terminal and the RDA-7.1 is in the Standby state.


Note:

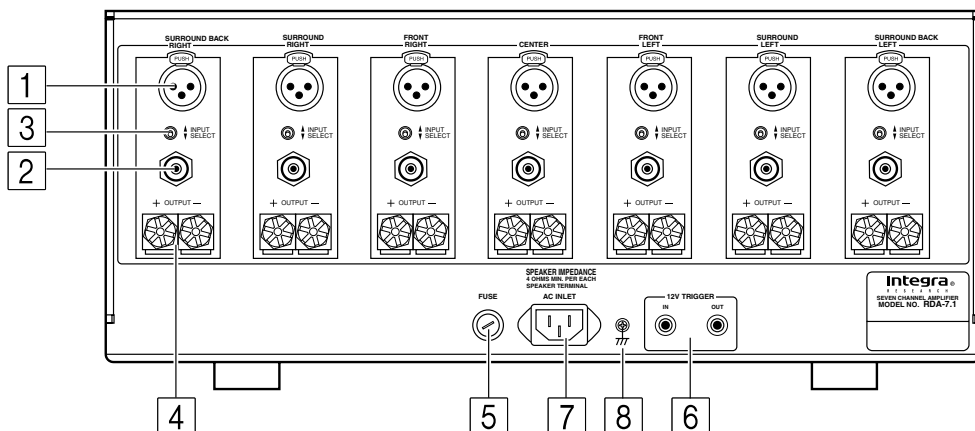
If the Power switch is pressed and neither indicator lights, check that the Power cord is properly connected and that a fuse has not blown. If the indicators still do not light, turn off the RDA-7.1, disconnect the Power cord, and contact an Onkyo service station or representative.

If the On indicator lights blue and the Standby indicator **flashes** red, the protection circuitry of the RDA-7.1 has activated. The protection circuitry activates if a problem such as a speaker cable shorting or the temperature of the RDA-7.1 rising excessively occurs. Turn off the RDA-7.1, remove the cause of the problem, and then turn the RDA-7.1 back on. If the problem is still not solved, turn off the RDA-7.1, disconnect the power cord, and contact an Onkyo service station or representative.

Rear panel facilities and connections

Caution

- Do not connect the Power cord until you have finished all other connections.
- Read the instructions that came with the other components you are connecting.
- Do not make connections to input or output jacks while the RDA-7.1 is turned on (Power  on).
- Always turn the volume of the AV controller down before turning on the RDA-7.1.



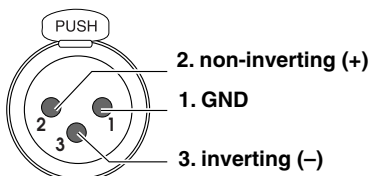
Precaution for connection

This unit comprises 7 independent power amplifiers, each being capable of reproducing the same quality sound through its channel. Note that you should connect an input source and a speaker to each channel in use. For channels that are not in use, we recommend that you do not connect any input source or speaker.

1

Balanced Input (XLR terminal)

Connect AV controllers or pre amplifiers with balanced outputs for high-quality sound.



Connector ground terminal: Chassis grounded

The pin assignments for this terminal are given above. This pin assignment conforms to the standard adopted by the Audio Engineering Society. Refer to the instruction manual supplied with the AV controller and verify that its output terminal is compatible with the pin assignments for this terminal. If it does not, wire it so that the output pins connect with the proper input pins.

Input terminal

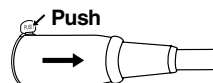
1. Connecting the input terminal

Match the pins and insert the terminal until you hear a "click." Ensure that it is secure by gently pulling it.



2. Disconnecting the input terminal

Pull out the connection cord while holding down the lever.



Note:

- When using this balanced connection for a specific channel between the AV controller and RDA-7.1, set the INPUT SELECT switch to the XLR input side to select balanced input. Next, use balanced cables and connect the balanced output from the AV controller to the corresponding balanced input on the RDA-7.1.
- Do not connect anything to the RCA-type audio input jack.

2

Unbalanced Input (single end RCA input)

Connect AV controllers or pre amplifiers with single-ended outputs for high-quality sound.

Note:

- When using this single-ended connection for a specific channel between the AV controller and RDA-7.1, set the INPUT SELECT switch to the RCA input side to select unbalanced input. Next, use RCA cables and connect the single-ended output from the AV controller to the corresponding single-ended input on the RDA-7.1.
- Do not connect anything to the balanced input jack.

3

INPUT SELECT ▲ / ▼

This switch is located between the balanced input and single-ended RCA input for each channel. Use this switch to select the input type for its channel.

Rear panel facilities and connections

Note:

- Do not change the INPUT SELECT switch setting when the RDA-7.1 is turned on.
- Make sure that connections have been made only to the inputs selected with the INPUT SELECT switches and nothing is connected to the other ones.

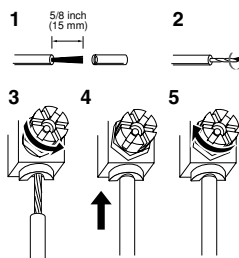
4 + OUTPUT – (Speaker output) (Binding post)

The RDA-7.1 is equipped with high-current binding posts for use at output terminals to the speaker system. To obtain the best in sound quality from the RDA-7.1, we recommend the use of high-quality speaker cables.

For each channel, connect the negative output post to the negative input terminal of the speaker and the positive output post to the positive input terminal of the speaker.

Make the connections following the procedure given below.

1. **Strip away 5/8 inch (15 mm) of wire insulation.**
2. **Twist wire ends very tight.**
3. **Unscrew**
4. **Insert wire**
5. **Screw**



Be sure to read “Phasing your speaker system” and “Speaker ratings” on page 12.

Caution

- Do not connect any devices other than speakers to these terminals. Also, never short-circuit the output from these terminals.
- Be sure not to mistake the positive and negative outputs or the left and right speakers. Doing so will result in an unnatural sound space.
- Only connect speakers with an impedance of 4 ohms or greater. If a speaker with an impedance of less than 4 ohms is connected, it may damage the RDA-7.1.
- Do not connect more than one speaker cable to one output terminal. Doing so may damage the RDA-7.1.

5 Fuse

The RDA-7.1 uses a 250V AC slow-blow (time lag) main fuse. To replace the fuse, insert a coin or similar object into the groove, turn it to the left, and remove the fuse. Replace only with the same type and same rating. The correct fuse rating will differ depending on the voltage of your set as given here.

Power Supply	Fuse Rating
120V	15A/250V
220V/230V/240V	T10A L/250V

Warning

Before replacing the fuse or making any electrical connections, always turn off the Power and disconnect the Power cord.

6 12V TRIGGER IN/OUT

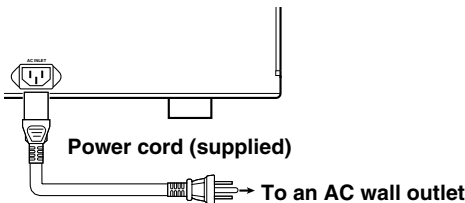
Connect the 12V TRIGGER IN jack to AV controller that have a 12V TRIGGER output jack, such as the RDC-7.1. This jack works on between 5 to 12 volts DC. With the Power switch of the RDA-7.1 set to On, you can switch the RDA-7.1 between the On and Standby states with operations at the AV controller.

If you want another component to be activated by turning on and off the AV controller connected to the 12V TRIGGER IN jack of the RDA-7.1, then connect the 12V TRIGGER input jack of that component to the 12V TRIGGER OUT jack of the RDA-7.1. In this state, even if the RDA-7.1 is turned off, the signal from the AV controller passes through the RDA-7.1 and goes out the 12V TRIGGER OUT jack. Daisy chaining is also possible using these jacks.

Use $\phi 1/8$ -inch (3.5-mm) monaural-type mini-jack connectors or supplied stereo mini-plug cable. The tip polarity of the connector is positive.

7 AC INLET

Plug the supplied Power cord into this AC INLET and then into the Power outlet on the wall,



- Do not use a Power cord other than the one supplied with the RDA-7.1. The Power cord supplied is designed for use with the RDA-7.1 and should not be used with any other device.
- Never have the Power cord disconnected from the RDA-7.1 while the other end is plugged into the wall outlet. Doing so may cause an electric shock. Always connect by plugging into the wall outlet last and disconnect by unplugging from the wall outlet first.

8 Ground

If connecting the unit to another equipment causes noise such as a hum, you may improve the reproduced sound quality by connecting this terminal to the grounding terminal of the connected equipment with a lead wire.

Connecting speakers

Before connecting the speakers, place them correctly by consulting the instruction manuals that came with them. Also, read [4](#) on page 11.

For surround playback, the configuration and placement of your speakers are very important.

Phasing your speaker system

If the speakers are not correctly connected, the phasing may be reversed. The result is an audio output with a strange feeling and indistinct positioning of the sound source.

To obtain an accurate bass response, all channels must be connected in-phase. When the tone of a single note is output, if the speakers are in-phase, the speakers will vibrate in unison. If the speakers are properly connected in-phase, then the positioning (of the instrument, singer, etc.) becomes clear. And if they are out of phase, then the positioning becomes unclear for a sound space with a strange feeling.

If this is the case, first check if the speaker cables are connected properly. The cables can usually be told apart by the colors, by different markings, or by colored lines on the cables. Use these marking to make sure that for each channel the binding posts (+) on the RDA-7.1 are connected to the (+) terminals on the speakers and the binding posts (–) on the RDA-7.1 are connected to the (–) terminals on the speakers.

- If you want to connect a single speaker, do not connect it to several terminals.
- Do not connect more than one cable to each speaker terminal. Doing so may damage the RDA-7.1.
- To prevent damage to circuitry, never short-circuit the positive (+) and negative (–) speaker wire.

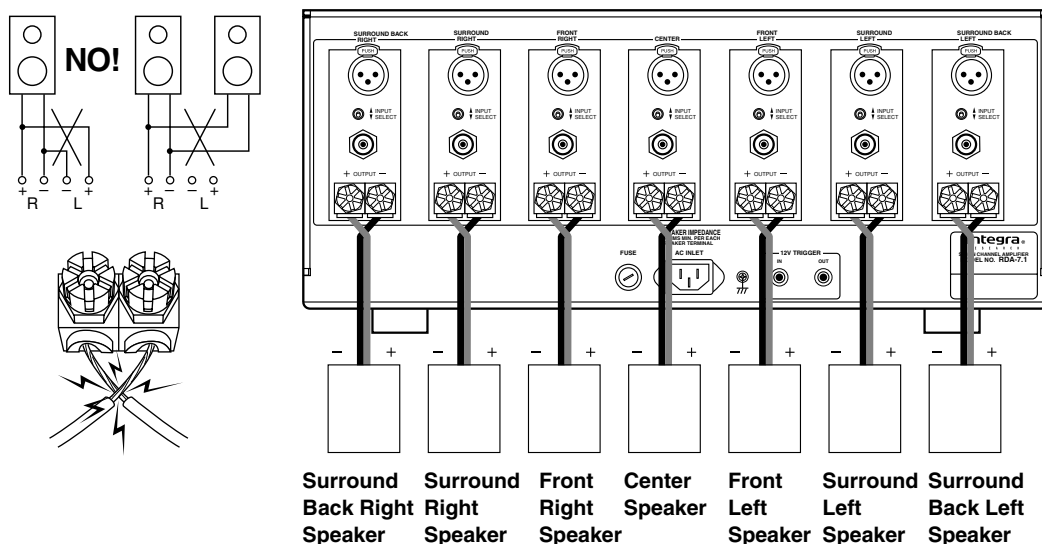
Speaker ratings

In actuality, you can connect any type of speaker to the RDA-7.1 and it will operate. The RDA-7.1 can operate low-impedance speakers with Power levels that exceed optimum levels with no problem. With many of the speakers that are nominally rated with an impedance of 4 ohms, their impedance may lower down to 2 ohms within a specific frequency range. You should not experience any problems at these low impedances unless you demand excessively high volume levels.

Since the output performance of the RDA-7.1 is extremely high, it is vital that the maximum ratings for the input Power of the speaker system be checked. To avoid damage to the speakers, the Power ratings for the speakers must be equal to or greater than the output Power rating (4 ohms) of the RDA-7.1 for the corresponding impedance.

Caution

We will not be held responsible for any damage that may occur to your speaker systems or other components that result from the use of a speaker system with ratings that are lower than those of the RDA-7.1.



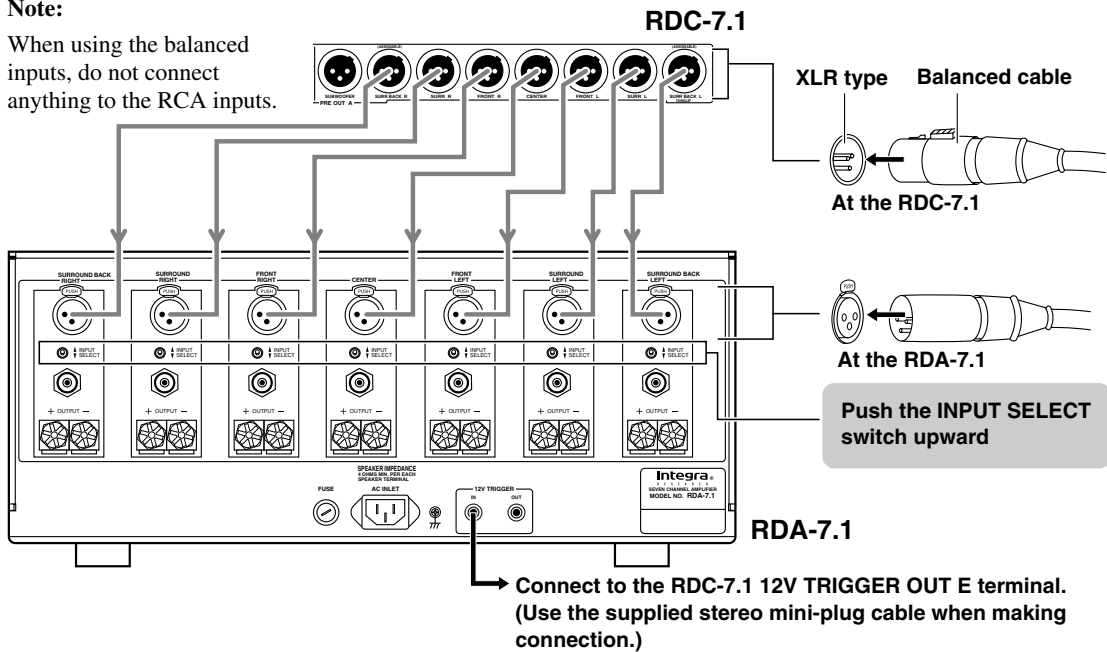
Connecting to the RDC-7.1

Since many users will purchase the RDA-7.1 together with the RDC-7.1, here is an explanation of how to connect the RDA-7.1 to the RDC-7.1.

Balanced input/output connection

Note:

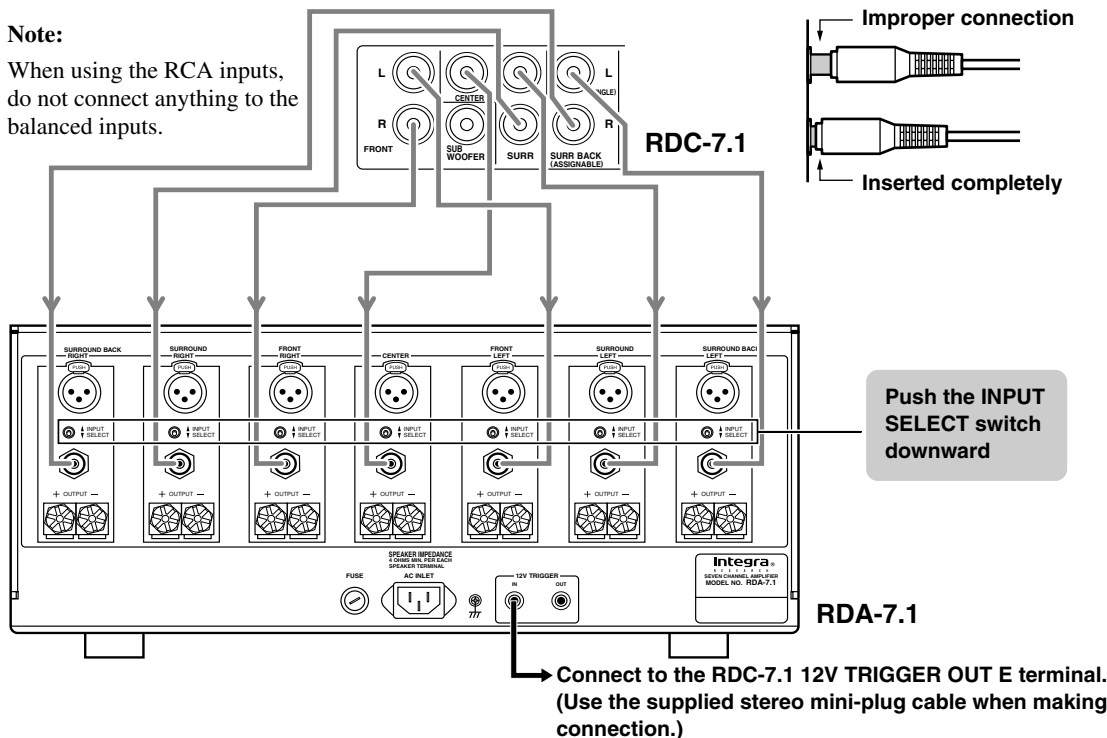
When using the balanced inputs, do not connect anything to the RCA inputs.



Unbalanced input/output connection RCA type cable

Note:

When using the RCA inputs, do not connect anything to the balanced inputs.



Cautions regarding humming noise

If humming is heard even when the volume is turned down or the RDA-7.1 is turned off, then a “ground loop” may be occurring. A ground loop is a potential difference in the grounding of two or more electrically connected components. This potential difference creates multiple current routes when there should only be one. This potential difference results in a hum noise and at times it can be just a low level noise. With the increased sophistication of home theaters, the chance of grounding loops occurring has greatly increased. If humming occurs, before considering it due to faulty equipment, read the following information listed to the right.

1. Your cable television system wiring may be causing the hum.

To determine whether the cable television is the cause of the hum, disconnect the cable television cable (round 75-ohm cable) or the first component that the cable is connected to (the set-top box or VCR). If the humming stops, connect a commercially-available 75-ohm ground loop isolator before reconnecting the system. If the humming still continues, read 2, 3, and 4 below.

2. An input cable is causing the hum

Turn off the entire system and disconnect all input cables. If the humming stops, reconnect the cables one at a time to determine the faulty cable. If the hum continues after all input cables are reconnected, contact an Onkyo service station or representative.

3. AC ground terminal loop

An AC ground terminal loop will cause the loudest hum. When grounding a system that uses a power cord with a three-pronged plug, be aware of components with a grounding terminal. If you cannot alter your home wiring to an insulated star-shaped grounding configuration, try an insulation transformer.

Caution

Never remove the ground terminal (the third round terminal) from the plug of the power cord that comes with the RDA-7.1. Doing so is very dangerous for it may cause an electrical shock or even electrocution.

4. Improper grounding in your home is causing the hum

In most cases, a water pipe is used as the ground in your home. Make sure that the connection is strong by checking for loose pipes or excessive corrosion. The most certain remedy is to ground the system independently. Drive a 5-foot (1.5-m) or longer copper-plated steel grounding pole into the ground and use this as the system ground. If you have questions regarding this procedure consult an electrician or your local electrical company.

If after exhausting all the possibilities given above the humming continues, contact an Onkyo service station or representative.

5. Both the balanced-line inputs and RCA inputs are connected

Unconnect either set and make sure the input selector switch is set to the correct position.

Troubleshooting guide

If the RDA-7.1 fails to function normally, first check the following points before contacting your Integra Research dealer. If the problem is not solved after going through the following list, unplug the power cord and contact your Integra/Onkyo authorized service center.

POWER

No power.

- Power cord is not correctly plugged into AC outlet/Inlet.
 - Plug the power cord into the AC outlet/Inlet properly.
- Power switch is not set to ON position.
 - Set the power switch to ON.

Power turns on but no sound.

- Incomplete connections.
 - Check speaker cable connections.
 - Insert all plugs firmly into jacks.
- No input signal from AV controller.
 - Check for input signal from AV controller.
- Incorrect INPUT SELECT switch setting.
 - Set INPUT SELECT switch to correct setting.

The Standby indicator flashes.

- Protective circuitry activated.
 - A problem such as a speaker cable shorting or the temperature of the RDA-7.1 rising excessively may have occurred. Turn power off immediately, locate problem, and correct it.

Specifications

AMPLIFIER SECTION

Number of channels:	7
Power:	
	150 watts per channel min. RMS at 8 ohms, 2 channels driven from 20 Hz to 20 kHz with no more than 0.1 % total harmonic distortion (FTC).
	300 watts per channel min. RMS at 4 ohms, 2 channels driven at 1 kHz with no more than 0.1 % total harmonic distortion (FTC).
	350 W (EIAJ, 4 Ω , 1 kHz, 10 %)
	300 W (DIN, 4 Ω , 1 kHz, 0.7 %)
Frequency response at -3 dB:	3.5 Hz - 250 kHz
Input Impedance:	47 kohm each phase
Input signal for max output power:	1.2 V
Input Sensitivity (Unbalanced):	100 mVrms
Input Sensitivity (Balanced):	200 mV
THD:	0.03 % (20 Hz to 20 kHz)
Damping Factor:	40 at 8 ohm
Power consumption	
	USA, Canada and some Asian model:
	15 A
	Other models:
	10 A
Rated Speaker Impedance:	4 ohms

GENERAL

Power Supply:	AC 120 V, 60 Hz AC 230 V, 50 Hz AC 220 V, 50/60 Hz
Dimensions (W × H × D):	450 × 197 × 602 mm 17-11/16" × 7-3/4" × 23-11/16"
Weight:	52.5 kg, 115.7 lbs.

Specifications and features are subject to change without notice.

Power supply and voltage vary depending on the area in which the unit is purchased.

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